Amendments to the Claims

This listing of the claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-380 (canceled)

381. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein:

an IP transfer network contains two, or more connection servers, and media routers outside said IP transfer network are each connected to terminals having a transmittance[[/]] and reception function of digital media;

based on the call setting request from a terminal calling side;

a call setting IP packet is transmitted from a media router on telephone calling side to a connection server on telephone calling side;

said connection server provided on the telephone calling side determines both a communication line for an inter-terminal communication within said IP transfer network and a circuit identification code (CIC) for identifying said communication line by employing both a telephone number provided on the telephone calling side and a telephone number provided on the call reception side, and produces an initial address message (IAM) containing said circuit identification code;

said produced initial address message is transmitted to the connection server provided on the call reception side, said connection server on the call reception side transmits a call setting IP packet to the media router on the call reception side, and said media router on the call reception side transmits said call setting IP packet to the media router a terminal on the call reception side;

said connection server on the call reception side produces an address completion message (ACM);

said address completion message and transmits said received address completion message is transmitted to said connection server on the telephone calling side;

when a report of telephone calling operation is received from the media router on the call reception side, said connection server on the call reception side produces a call ~~pass~~ progress message (CPG); said call pass message reaches to said connection server on the telephone calling side; and said connection server on the calling side transmits the report of telephone calling operation of the media router on the call reception side to the media router on the telephone calling side;

upon receipt of a response issued from the media router on the call reception side, said connection server on the call reception side produces ~~a response~~ an answering message (ANM); said response message reaches to said connection server on the telephone calling side; said connection server on the telephone calling side stops ~~the~~ a calling ~~sound~~ signal of the media router on the call reception side; both said terminal on the telephone calling side and said terminal on the call reception side can establish an inter-terminal communication, through both the media router calling side and the media router reception side, to transmit[[/]] and receive the digital media via said media routers provided on the telephone calling side and the call reception side;

a request for interrupting the inter-terminal communication is transmitted from said media router provided on either the telephone calling side or the call reception side to said connection server; a release request message (REL) is sent from said connection server to another connection server; an interrupt instruction is transmitted from said another connection server to another media router, and on the other hand, a release completion message (RLC) is transmitted from another connection server to said server; and an interrupt completion is sent to a media router so as to ~~connect/~~release the inter-terminal communication between the two terminals.

382. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein:

an initial address message (IAM), a call ~~pass~~ progress message (CPG), an ~~response~~ answering message (ANM), a release message (REL), and a release completion message (RLC) are transmitted/received between said connection server on the telephone calling side and said connection server on the call reception side, and an address completion message (ACM) is omitted.

383. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein:

after the inter-terminal communication is completed, said connection server acquires an inter-terminal communication record including a circuit identification code (CIC), a communication time instant, and a telephone number, and records the acquired communication record therein so as to be used for a charging purpose and/or an operation/management.

384. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein: said terminal is a telephone set, said digital media is digitalized voice and said media communication is telephone communication.

385. (previously presented)A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein: said terminal is an IP terminal, said digital media is characters or digitalized still images and said media communication is IP data communication.

386. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein: said terminal is a voice-moving image transmission/reception terminal, said digital media is digitalized voice-moving image and said media communication is voice-moving image communication.

387. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein: said terminal is a facsimile terminal, said digital media is digitalized facsimile image and said media communication is facsimile communication.

388. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein: said telephone number is terminal discrimination number to discriminate a receiving terminal.

389. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 382, wherein:

in order to perform a telephone communication between a first dependent type IP telephone set which is not directly connected to a network apparatus in said IP transfer network and a second dependent type IP telephone set, when a handset of said first dependent type IP telephone set is taken up, said first dependent type IP telephone set forms an IP packet containing the telephone number of said second dependent type IP telephone set, the IP packet reaches first network node via said first H323 termination unit and a first domain name server inside the first media router, the first network node apparatus sends said IP packet to a second domain name server inside an integrated IP transfer network, said second domain name server returns a second IP address corresponding to the telephone number of said second dependent type IP telephone set in an 1-to-1 correspondence relationship via said first domain name server or without passing through said first domain name server to said first H323 termination unit, when said first H323 termination unit forms and sends an IP packet with a destination IP address as being said second IP address, said IP packet passes through said second H323 termination unit, said second network node apparatus, said more than one router inside said IP transfer network, said first network node apparatus and said first H323 termination unit, and reaches said first dependent IP telephone set;

when said first user hangs up a handset upon completion of telephone communication, an IP packet indicating the completion of telephone communication is formed/transmitted with a source IP address as being said first IP address and a destination IP address as being said second IP address;

when said IP packet passes through said first H323 termination unit, said first network node apparatus, said more than one router inside said IP transfer network, said second network node apparatus and said second H323 termination unit, and reaches said

second dependent IP telephone set, thereby enabling said second user to acknowledge the completion of telephone communication.

390. (previously presented)   A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 389, wherein:

said second dependent type IP telephone set is directly connected via a communication line to another network node apparatus.

391. (previously presented)   A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 389, wherein:

plural sets of said second dependent type IP telephone sets are employed; and

said plural IP telephone sets are directly connected to each other via a communication line to another network node apparatus.

392. (currently amended)   A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 381, wherein:

said media router is present within a CATV gateway employed in a CATV network outside said IP transfer network, and is connected via a communication line to the network node apparatus one of said connection server provided in the integrated IP transfer network;

said media router is connected via any one of a CATV line interface and/or a CATV line to the IP terminal, the analog telephone set, the IP telephone set, and the IP voice[[/]] and image apparatus; and

said CATV line contains a communication lower-grated layer specific to the CATV line, and owns a function capable of transferring an IP packet in a communication network.

393. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein: dependent type voice[[/]] and image apparatus 1 which is indirectly connected to a network node apparatus in said IP transfer network, inquires a host name of dependent voice[[/]] and image apparatus 2

to an IP image dedicated domain name server inside an IP transfer network via a media router 1 and obtains IP address of said dependent voice[[/]] and image apparatus 2, then said dependent voice[[/]] and image apparatus 1 sends voice[[/]] and image data to said voice[[/]] and image apparatus 2 via a media router 1, the IP transfer network and said media router 2, thereby to carry out a voice[[/]] and image communication between said dependent voice[[/]] and image apparatus 1 and said dependent voice[[/]] and image apparatus 2.

394. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein: independent type voice/image apparatus 1 which is directly connected to a network node apparatus in said IP transfer network, inquires a host name of independent voice[[/]] and image apparatus 2 to an IP image dedicated domain name server inside an IP transfer network via a media router 1 and obtains IP address of said independent voice[[/]] and image apparatus 2, then said independent voice[[/]] and image apparatus 1 sends voice[[/]] and image data to said voice[[/]] and image apparatus 2 via a media router 1, the IP transfer network and said media router 2, thereby to carry out a voice[[/]] and image communication between said independent voice[[/]] and image apparatus 1 and said independent voice[[/]] and image apparatus 2.

395-397. (canceled)

398. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein:

an IP terminal and a dependent type IP telephone set are connected via a communication line to a first gateway, and said dependent type IP telephone set is indirectly connected to a network node apparatus in said IP transfer network;

an IP terminal and an IP voice[[/]] and image apparatus are connected via a communication line to a second gateway; and

the terminal-to-terminal communication can be established via said first gateway, said ~~integrated~~ IP transfer network, and said second gateway in order that the terminal-to-terminal communication can be made via said gateways.

399. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 398, wherein:

a plurality of gateway communication interface function units are provided inside said gateway, depending upon communication procedure, so that said gateway communication interface function units can be adapted to various sorts of telephone communication procedures.

400. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 399, wherein:

a telephone is connected to a media router provided in a LAN having a telephone number of a public switched telephone network;

a combination of an address telephone number and a transfer[[ee]] gateway telephone number is set in a transfer processing unit of a switching machine; and

said telephone is connected to another telephone machine inside said LAN.

401. (canceled)

402. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein:

an IP transfer network includes ~~more than~~ two or more network node apparatus<u>es</u>;

a media router is connected to an IP communication line to any one of said network node apparatus;

an internal IP address is applied to a logic terminal of a termination unit on the side of said network node apparatus of the IP communication line;

an external IP address is applied to each of the media routers, and also said media router is connected via a communication line to more than one telephone set;

as a record of an address management table provided in said network node apparatus, both said external IP addresses and said internal IP addresses are contained, and an IP communication record for defining an IP capsulation method is previously set; and

a telephone communication connection control and a telephone communication release control are carried out between the telephone set connected to said media router and another telephone set connected to another media router.

403. (previously presented)A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 402, wherein:

a media router containing a telephone number server is employed, and said telephone number server answers an IP address when a telephone number is inquired.

404. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in Claim 402, wherein:

a telephone call connection phase is carried out by transmitting a call setting IP packet which contains at least a source telephone number and a destination telephone number.

405. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 404 wherein:

a connection control of a telephone call identifier is attained by using a common port number for of a plurality of telephone sets and individual voice communication in each telephone set is attained by allocating a different port number to each telephone set.

406. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein: an inter-terminal communication for a telephone communication comprising call set request (IAM), call set reception completion (ACM), call progress(CPG) process and response answering (ANM) is carried out by transmitting[[/]] and receiving an IP packet between call sets inside IP transfer network and is moved to a service phase, and said service phase is

completed by transmitting[[/]] and receiving said IP packet between the call sets via a step comprising release (REL) and release completion (RLC), and a record including at least a telephone number, a communication start time and a communication end time is registered.

407-412. (canceled)

413. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein:

an IP transfer network includes more than two or more network node apparatus;

a media router is connected to an IP communication line to any one of said network node apparatus;

an internal IP address is applied to a logic terminal of a termination unit on the side of said network node apparatus of the IP communication line;

an external IP address is applied to each of the media routers, and also said media router is connected via a communication line to more than one telephone set;

as a record of an address administration table provided in said network node apparatus, both said external IP addresses and said internal IP addresses are contained; and

an IP communication record is set in order that in said address administration table and a telephone communication is carried out among preselected companies A-1, A-2, ···, A-N ("N" being larger than 2), so that a closed-area telephone communication can be carried out, and communication destinations of said closed-area telephone communication are limited.

414. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 413 wherein:

a telephone set of the company A-1 which is connected to a closed-area telephone communication network which is effective among the preselected companies A-1, A-2, ···, A-N ("N" being larger than 2) can establish a telephone communication with a telephone set having an extension telephone number of the company A-1; and

telephone sets of the companies other than the company A-1 cannot establish telephone communications with the telephone set having the extension telephone number of the company A-1.

415. (previously presented) A method of acquiring an IP address with employment of a terminal-to-terminal communication connection method as claimed in claim 403, wherein:

a telephone number is converted into a domain name format of the telephone number, and an IP address used in telephone communication is acquired from the domain name format.

416-418. (canceled)

419. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein:

a communication line for a telephone communication connection control is separated from a voice communication line between a termination gateway equipped with an encapsulation function and a relay gateway; and

a telephone communication is carried out between two telephone sets via a telephone set 1, a termination gateway equipped with a capsulation function, a relay gateway, ~~an~~ a Network to Network Interface (NNI) interface communication line, a public switched telephone network, and a telephone set 2 in this order.

420. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 419 wherein:

a telephone number server employed in said termination gateway equipped with the encapsulation function, and a relay control unit employed in the relay gateway own individual Circuit Identification Code (CIC) administration tables; and manage circuit identification codes by employing the respective CIC administration tables.

421. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 419 wherein:

the relay control unit retrieves a signaling point address administration table and indicates a telephone number of a destination telephone set so as to acquire a signaling point address of such a exchanger for managing said destination telephone set.

422. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 419 wherein:

the relay control unit determines a circuit identification code (CIC) and a signaling link selection based upon a rule which is previously determined with respect to the public switched telephone network.

423. (previously presented) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 419 wherein:

a conversion between an IP packet and a signaling unit is carried out by employing an address connection table employed in the relay control unit within the relay gateway, which holds address information contained in an IP packet and label information contained in a signaling unit.

424. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 419 wherein:

while using a media connection table contained in a voice control unit provided in the relay gateway, a converting operation between an IP packet for storing digital voice, and a voice signal which is transferred through a voice communication line of the Network to Network Interface (NNI) communication line is carried out.

425. (previously presented) A relay control unit wherein:

in the method claimed in Claim 419, while using an address connection table which contains both address information contained in an IP packet and label information contained in a signaling unit, a conversion operation between the IP packet and the signaling unit is carried out.

426. (currently amended)   A voice control unit wherein:

in the method claimed in Claim 419,while a media path connection table, the voice control unit performs a conversion operation between an IP packet for storing digital voice, and a voice signal transferred through a voice communication line of a[[n]] Network to Network Interface (NNI) communication line.

427. (currently amended)   A voice control unit as claimed in claim 426, wherein:

said voice control unit has an IP address used to transmit[[/]] and receive a voice IP packet, and said IP address is supplied to set a media path communication table.

428. (previously presented) A voice control unit as claimed in Claim 426, wherein:

said voice control unit secures a logic voice communication line used to receive or transmit from the public switched telephone network.

429. (currently amended) A termination gateway equipped with a capsulation function wherein:

said termination gateway equipped with the encapsulation function includes a relay control unit and a network node apparatus;

said network node apparatus owns both an IP encapsulation function and an inverse-capsulation function;

said relay control unit includes a telephone administration server, a telephone number server, a pilot telephone server, and a table administration server; and

among IP packets entered from a media router to the network node apparatus, a telephone call control IP packet is transferred to the relay control unit, and a voice IP packet is branched transferred to a voice IP communication line for a voice communication.

430. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein:

a telephone communication between two telephone sets can be carried out via a telephone set 1, a public switched telephone network 1, a[[n]] Network to Network (NNI) interface communication line 1, both a relay gateway 1 and a relay gateway 2, which belong to an IP transfer network, a[[n]] Network to Network (NNI) interface communication line 2, a public switched telephone network 2, and a telephone set 2 in this order.

431. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network wherein:

a telephone communication between two telephone sets can be carried out via a telephone set 1, a public switched telephone network 1, a[[n]] Network to Network (NNI) interface communication line, both a relay gateway and a gateway equipped with a capsulation function, which belong to an IP transfer network, a media router, and a telephone set 2 in this order.

432. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein:

an IP transfer network contains two[[,]] or more connection servers and a terminal 1 outside said IP transfer network transmits a call setting IP packet ~~from a terminal 1 of the out-side~~ to a connection server provided on the telephone calling side,

the connection server ~~provided~~ on the telephone calling side determines a communication line for inter-terminal communication within the IP transfer network by employing both a telephone number ~~included in the call setting IP packet and~~ provided on the telephone calling side and a telephone number provided on the call reception side, and produces an initial address message (IAM) for setting telephone calling;

the produced initial address message is transmitted to the connection server on the call reception side via a relay connection server, and the connection server on the call reception side transmits a call setting to a terminal 2 which is on the call reception side;

the connection server on the call reception side forms an address completion message (ACM) and transmits the address completion message via the relay connection server;

upon receipt of a report of telephone calling operation issued from the terminal 2 ~~on the call reception side~~, the connection server on the call reception side forms a call ~~pass~~ progress message (CPG), the call ~~pass~~ progress message reaches the connection server on the telephone calling side via the relay connection server, and the connection server on the telephone calling side transmits the report of telephone calling operation of the terminal 2 ~~on the call reception side~~ to the terminal 1 [[I]] on the ~~generation~~ calling side;

upon receipt of a response issued from the terminal 2 ~~on the call reception side~~, the connection server on the call reception side produces ~~a response~~ an answering message (ANM), the ~~response~~ answering message reaches the connection server on the telephone calling side via the relay connection server, the connection server on the telephone calling side stops the calling sound of the terminal 2 on the call reception side, and both the terminal 1 ~~on the telephone calling side~~ and the terminal 2 ~~on the call reception side~~ can establish an inter-terminal communication between the terminals to transmit[[/]] and receive a digital media; and

a request for interrupting the inter-terminal communication is transmitted from the terminal 1[[I]] or 2 provided on either the telephone calling side or the call reception side to one of the connection servers, a release request message (REL) is transmitted from the connection server to the connection server on another side via the relay connection server, an interrupt instruction is transmitted from the connection server on the other side to the connection server on another side, and on the other hand, a release completion message (RLC) is transmitted from the connection server on the other side via the relay connection server to the server, and an interrupt completion is sent to the terminals so as to ~~connect/~~release the inter-terminal communication between the two terminals.

433. (currently amended) A terminal-to-terminal communication connection control method with employment of an IP transfer network as claimed in claim 432, wherein:

an initial address message (IAM), a call pass progress message (CPG), an response answering message (ANM), a release request message (REL) and a release completion message are transmitted[[/]] and received between the connection server on the telephone calling side and the connection server on the call reception side; and an address completion message (RLC) is omitted.

434. (currently amended)A terminal-to-terminal communication connection control method with employment of an IP transfer network, wherein:

the IP transfer network includes at least two network node apparatuses, a media router is connected to any one of the network node apparatuses via an IP communication line, an internal address is added notified to a logical terminal at the end of the IP communication line on the network node apparatus side, the media router is connected to at least one telephone set through a communication line, the an external IP address and the internal address are included as a record of an address management table inside the network node apparatus, an IP communication record for regulating a simple encapsulating method having no originating address in a header of an internal packet is set in advance, and connection control of telephone communication and a release control of telephone communication are performed by employing the IP communication record between the telephone set connected to the media router and another telephone set connected to another media router.

435. (canceled)

436. (currently amended) An IP communication system, wherein:

an IP transfer network contains two or more network node apparatuses and servers;

said network node apparatus include a function to form an internal IP packet by encapsulating an IP external packet and a function to restore said external IP packet by decapsulating said internal IP packet;

said network node apparatus and said servers are connected within IP transfer network via a line;

said network node apparatus is connected to one or more media router;

said media router connects to one or more terminal;

~~said media router connects to one or more terminal;~~

said media router communicates with said network node apparatus by transmitting[[/]] and receiving said external IP packet;

said network node apparatus and servers communicate with a destination network node apparatus and a destination server by transmitting[[/]] and receiving said internal IP packet within said IP transfer network; and

said IP communication system includes one or more said IP transfer network and constitutes an integrated IP communication system.

437. (previously presented) An IP communication system according to Claim 436, wherein integrated IP communication system includes an IP transfer network to carry out a telephone communication.

438. (previously presented) An IP communication system according to Claim 436, wherein integrated IP communication system includes an IP transfer network to carry out an IP data multicast communication.

439. (currently amended) An IP data multicast operation management server in used in said IP communication system according to Claim 436, wherein said IP data multicast operation management server manages IP multicast communication data of a terminal host name ~~and so on~~ of an IP data multicast network.

440. (previously presented) An IP base TV broadcast operation service management server in used in said IP communication system according to Claim 436, wherein said IP base TV broadcast operation service management server manages IP base TV communication data of a terminal host name and so on of an IP base TV broadcast network.

441. (previously presented) An IP communication system according to Claim 436, wherein said network node apparatus connects to two or more IP transfer network.

442. (currently amended) A terminal-to-terminal communication control method, wherein an IP transfer network is connected to two or more apparatus, said apparatus are respectively connected to terminals, said apparatus communicate with said terminals by using an IP packet, a sending side apparatus communicates with a receiving side apparatus by using said IP packet via said IP transfer network, and a communication between said terminals is carried out via said IP transfer network by using internet protocol,

   wherein a sending side terminal communicates with said sending side apparatus by using a communication connection control of a User to Network Interface (UNI), said sending side apparatus communicates with said receiving side apparatus by using a communication connection control of a Network to Network Interface (NNI) via said IP transfer network and said receiving side apparatus communicates with said receiving side terminal by using said communication connection control of UNI.

443. (previously presented) A terminal-to-terminal communication control method according to claim 442, wherein said UNI is a communication connection control including a response confirmation message.

444. (previously presented) A terminal-to-terminal communication control method according to claim 442, wherein said UNI is a communication connection control according to H323.

445. (previously presented) A terminal-to-terminal communication control method according to claim 442, wherein said NNI is a communication connection control according to a common channel signaling system.

446.   (currently amended) A terminal-to-terminal communication control method according to claim 442, wherein said UNI is a communication connection control including a~~n~~ ~~response~~ answering confirmation message.

447.   (previously presented)   A terminal-to-terminal communication control method according to claim 442, wherein said UNI and NNI are communication connection controls including ~~response~~ answering confirmation messages.

448.   (currently amended) A terminal-to-terminal communication control method,
           wherein an IP transfer network is connected to two or more network node apparatus~~es~~, said network node apparatus respectively have two or more ~~mode~~ logical terminals, said network node apparatus are connected to terminals for communicating by using an external packet via said IP transfer network via said logical terminals, ~~said terminals communicate with said network node apparatus by using an external packet via said IP transfer network,~~ said network node apparatus communicate with a destination network node apparatus by using an internal packet via said IP transfer network, said network node apparatus has a function to form said internal packet based on said external packet and logical terminals which said external packet inputs and to restore said external packet based on said internal packet, a terminal-to-terminal communication is carries out by using internet protocol via said network node apparatus and said IP transfer network, and said IP transfer network includes a connection phase and a communication phase and registers a record including at least a telephone number, a communication start time and a communication end time.

449.   (previously presented)   A terminal-to-terminal communication control method according to claim 448, wherein said connection phase is carried out based on a common channel signaling system including an address completion message.

450.   (currently amended) A terminal-to-terminal communication control method according to claim 448, wherein said connection phase includes a~~n~~ answering ~~response~~ confirmation message.

451. (currently amended)   A terminal-to-terminal communication control method, wherein an IP transfer network is connected to two or more network node apparatus<u>es,</u> said network node apparatus respectively have two or <u>more</u> <s>mode</s> logical terminals, said network node apparatus are connected to terminals<u> for communicating by using an</u> <u>external packet via said IP transfer netwrok</u> via said logical terminals, <s>said terminals</s> <s>communicate with said network node apparatus by using an external packet via said IP</s> <s>transfer network</s>, said network node apparatus communicate with a destination network node apparatus by using an internal packet via said IP transfer network, said network node apparatus has a function to form said internal packet based on said external packet and logical terminals which said external packet inputs and to restore said external packet based on said internal packet, a terminal-to<u>-</u>terminal communication is carries out by using internet protocol via said network node apparatus and said IP transfer network, and said IP transfer network includes a procedure to carry out a call setting and a procedure to communicate between said terminals and registers a record including at least a telephone number, a communication start time and a communication end time.

452. (previously presented)   A terminal-to-terminal communication control method according to claim 451, wherein said call setting is carried out based on a common channel signaling system including an address completion message.

453. (currently amended)   A terminal-to-terminal communication control method according to claim 451, wherein said call setting includes a<u>n answering</u> <s>response</s> confirmation message.

454.   (currently amended)   A terminal-to-terminal communication control method, wherein an IP transfer network is connected to two or more network node apparatus<u>es</u>, said network node apparatus respectively have two or <u>more</u> ~~mode~~ logical terminals, said network node apparatus are connected to terminals via said logical terminals, said terminals communicate with said network node apparatus by using an external packet via said IP transfer network, said network node apparatus communicate with a destination network node apparatus by using an internal packet via said IP transfer network, said network node apparatus has a function to form said internal packet based on said external packet and logical terminals which said external packet inputs and to restore said external packet based on said internal packet, a terminal-to terminal communication is carries out by using internet protocol via said network node apparatus and said IP transfer network, and said IP transfer network carries out a call control as a communication connection control between said terminals and registers a record including at least a telephone number, a communication start time and a communication end time.

455.   (previously presented)   A terminal-to-terminal communication control method according to claim 454, wherein said call control is carried out based on a common channel signaling system including an address completion message.

456.   (currently amended)   A terminal-to-terminal communication control method according to claim 454, wherein said call control includes a<u>n answering</u> ~~response~~ confirmation message.

457.   (previously presented)   A terminal-to-terminal communication control method according to claim 454, wherein said call control is a telephone communication connection control.

458.   (currently amended) A terminal-to-terminal communication control method, wherein an IP transfer network has three or more logical terminals, said logical terminals are respectively connected to terminals, said terminals for communicate communicating with said logical terminals by using an external packet, a sending side logical terminal communicates with a receiving side logical terminal by using an internal packet via said IP transfer network, and a terminal-to-terminal communication with said logical terminals is carries out by using internet protocol via said IP transfer network,

wherein said IP transfer network includes a step to decide an internal address of said internal packet for the terminal-to-terminal communication based on an external address given to said sending side logical terminal and said external packet, a step to decide said receiving side logical terminal for sending said internal packet based on said decided internal address, and a step to carry out a telephone communication connection control between said terminals.

459.   (previously presented)   A terminal-to-terminal communication control method according to claim 458, wherein said telephone communication connection control is carried out based on a common channel signaling system including an address completion message.

460.   (currently amended) A terminal-to-terminal communication control method according to claim 458, wherein said telephone communication connection control includes an answering response confirmation message.

461.   (currently amended) A terminal-to-terminal communication control method, wherein an IP transfer network has three or more logical terminals, said logical terminals are respectively connected to terminals, ~~said terminals~~ for communicating ~~communicate with said logical terminals by~~ using an external packet, a sending side logical terminal communicates with a receiving side logical terminal by using an internal packet via said IP transfer network, and a terminal-to-terminal communication with said logical terminals is carries out by using internet protocol via said IP transfer network,

wherein said IP transfer network includes a step to decide an internal address of said internal packet <u>for the terminal-to-terminal communication</u> based on an external address given to said sending side logical terminal and said external packet, a step to decide said receiving side logical terminal for sending said internal packet based on said decided internal address, and a step to connect said terminals in a connection phase, and a step to communicate between said terminals in a communication phase.

462.   (previously presented)   A terminal-to-terminal communication control method according to claim 461, wherein said connection phase is carried out based on a common channel signaling system including an address completion message.

463.   (currently amended) A terminal-to-terminal communication control method according to claim 461, wherein said connection phase includes a<u>n answering</u> ~~response~~ confirmation message.

464.   (currently amended) A terminal-to-terminal communication control method, wherein an IP transfer network has three or more logical terminals, said logical terminals are respectively connected to terminals, sa~~id terminals communicate with said logical terminals~~ for communicating by using an external packet, a sending side logical terminal communicates with a receiving side logical terminal by using an internal packet via said IP transfer network, and a terminal-to-terminal communication with said logical terminals is carries out by using internet protocol via said IP transfer network,

wherein said IP transfer network includes a step to decide an internal address of said internal packet <u>for the terminal-to-terminal communication</u> based on an external address given to said sending side logical terminal and said external packet, a step to decide said receiving side logical terminal for sending said internal packet based on said decided internal address, and a step to carry out a call setting, and a step to communicate between said terminals.

465.   (previously presented)   A terminal-to-terminal communication control method according to claim 464, wherein said call setting is carried out based on a common channel signaling system including an address completion message.

466.   (previously presented)   A terminal-to-terminal communication control method according to claim 464, wherein said call setting includes a response confirmation message.